



Pyraclostrobin/BAS 500 F/PC Code 099100/BASF Corporation
 DACO 7.4.1/OPPTS 860.1500/OECD IIA 6.3.1, 6.3.2, 6.3.3 and IIIA 8.3.1, 8.3.2, 8.3.3
 Crop Field Trial - Dry and Succulent Peas

Reviewer Manying Xue, Chemist *Manying Xue*
 RAB3/HED (7509C) Date: 07/22/04

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 RAB3/HED (7509C) Date: 07/22/04

This DER was originally prepared under contract by Dynamac Corporation (20440 Century Boulevard, Suite 100; Germantown, MD 20874; submitted 02/26/2004). The DER has been reviewed by the HED and revised to reflect current OPP policies.

STUDY REPORT:

45596211 Haughey, D.; Abdel-Baky, S. (2002) Magnitude of BAS 510 F and BAS 500 F Residues in Dry and Succulent Peas: Final Report: Lab Project Number: 2001/5003246: 66696: F200112. Unpublished study prepared by BASF Agro Research. 95 p.

EXECUTIVE SUMMARY:

BASF Corporation has submitted field trial data on dried shelled peas, succulent shelled peas, and succulent edible-podded peas. A total of 20 dry and succulent pea field trials were conducted during the 2001 growing season. Nine trials (5 U.S. trials and 4 Canadian trials) were conducted on dried shelled peas in Regions 5 (ND; 1 trial), 11 (ID, OR, and WA; 4 trials), and 14 (AB and SK, Canada; 4 trials); eight trials (7 U.S. trials and 1 Canadian trial) were conducted on succulent shelled peas in Regions 1 (PA; 1 trial), 2 (GA and NC; 2 trials), 5 (MN and WI; 3 trials), 11 (WA, 1 trial), and 5B (QC, Canada; 1 trial); and three trials were conducted in the U.S. on succulent edible-podded peas in Regions 5 (MN; 1 trial), 11 (WA; 1 trial), and 12 (OR; 1 trial).

At each test location a total of two broadcast foliar spray applications of the 20% BAS 500 F WG formulation were made at ~0.2 lb ai/A/application with a 4- to 6-day retreatment interval, for a total seasonal rate of ~0.4 lb ai/A. Applications were made using ground equipment in a spray volume of ~10-36 gal/A of water with a spray adjuvant added to the spray mixture. The 20% WG pyraclostrobin formulation used in the dried and succulent pea field trials also contained another experimental active ingredient (BAS 510 F) as part of the tank-mix; data for the BAS 510 active ingredient are not reviewed herein. Samples of dried shelled peas were harvested 20-22 days and succulent shelled peas and succulent edible-podded peas were harvested 6-8 days following the last of two broadcast foliar applications from all test sites.

The harvested samples were analyzed by BASF Agro Research (Research Triangle Park, NC) for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. The limit of quantitation (LOQ) was 0.02 ppm for each analyte (pyraclostrobin and BF 500-3) in/on dried shelled peas, succulent shelled peas, and succulent edible-podded peas. This method is adequate for data collection based on acceptable concurrent method recovery data.



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The maximum storage intervals of crop samples from harvest to analysis were 138 days (4.5 months) for dried shelled peas, 224 days (7.4 months) for succulent shelled peas, and 163 days (5.4 months) for succulent edible-podded peas. No storage stability data have been submitted with this petition. Available storage stability data indicated that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months. The storage stability data can be translated to support the storage intervals for dry and succulent peas for this study (D269668, etc., L. Cheng, 11/28/2001).

The results of the dried and succulent pea field trials show that the maximum combined residues of pyraclostrobin and its metabolite BF 500-3 were: (i) <0.10 ppm in/on treated samples of dried shelled peas harvested at 20- to 22-day PHIs; (ii) <0.10 ppm in/on treated samples of succulent shelled peas harvested at 7- to 8-day PHIs; and (iii) 0.36 ppm in/on treated samples of succulent edible-podded peas harvested at 6- to 7-day PHIs.

STUDY/WAIVER ACCEPTABILITY/DEFICIENCIES/CLARIFICATIONS:

Under the conditions and parameters used in the study, the field trial residue data are classified as scientifically acceptable. The acceptability of this study for regulatory purposes is addressed in the forthcoming U.S. EPA Residue Chemistry Summary Document, DP Barcode D281042.

COMPLIANCE:

Signed and dated GLP, Quality Assurance and Data Confidentiality statements were provided. No deviations from regulatory requirements were reported which would have an impact on the validity of the study.

A. BACKGROUND INFORMATION

Pyraclostrobin is a fungicide that is structurally related to the naturally occurring strobilurins, compounds derived from some fungal species. Pyraclostrobin is also in the same chemical class as azoxystrobin (PC 128810), registered for many crops and turf/lawn, and trifloxystrobin (PC 129112) which recently was granted a "reduced risk" status as a fungicide on many crops. The biochemical mode of action of these compounds is inhibition of electron transport in pathogenic fungi.



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TABLE A.1. Test Compound Nomenclature	
Compound	Chemical Structure
Common name	Pyraclostrobin
Company experimental name	BAS 500 F
IUPAC name	methyl <i>N</i> -{2-[1-(4-chlorophenyl)-1 <i>H</i> -pyrazol-3-yloxymethyl]phenyl}(<i>N</i> -methoxy)carbamate
CAS name	methyl [2-[[[1-(4-chlorophenyl)-1 <i>H</i> -pyrazol-3-yl]oxy]methyl]phenyl]methoxycarbamate
CAS #	175013-18-0
End-use product/EPs	20% water dispersible granular formulation (WG; product name: Cabrio™ EG Fungicide; EPA Reg. No. 7969-187/EPA File Symbol 7969-RIT)

Pyraclostrobin technical is a white to light beige solid.

TABLE A.2. Physicochemical Properties		
Parameter	Value	Reference ¹
Melting point	63.7-65.2 °C	D269848 & D274191
Density	1.285g/cm ³ at 20°C	D269848 & D274191
Water solubility (20°C)	2.41 mg/L in deionized water at 20°C 1.9 mg/L in buffer system pH 7 at 20°C 2.3 mg/L in buffer system pH 4 at 20°C 1.9 mg/L in buffer system pH 9 at 20°C	D269848 & D274191
Solvent solubility (mg/L at 20°C)	acetone (≥160 mg/L); methanol (11 mg/L); 2-propanol (3.1 mg/L); ethyl acetate (≥160 mg/L); acetonitrile (≥76 mg/L); dichloromethane (≥110 mg/L); toluene (≥100 mg/L); n-heptane (0.36 mg/L); 1-octanol (2.4 mg/L); olive oil (2.9 mg/L); DMF (≥62 mg/L).	D269848 & D274191
Vapour pressure at 25°C	2.6 x 10 ⁻¹⁰ hPa (at 20°C); 6.4 x 10 ⁻¹⁰ hPa	D269848 & D274191
Dissociation constant (pK _a)	Does not dissociate in water. There are no dissociable moieties.	D269848 & D274191
Octanol/water partition coefficient Log(K _{ow})	n-Octanol/water partition coefficient (K _{ow}) at room temperature (=K _{ow} of 3.80, pH 6.2; =log K _{ow} 4.18, pH 6.5).	D269848 & D274191

¹ Product Chemistry data were reviewed by the Registration Division (D269848 and D274191, 5/3/01, 5/15/01, and 6/7/01, S. Malak)



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B. EXPERIMENTAL DESIGN

B.1. Study Site Information

TABLE B.1.1. Trial Site Conditions.

Trial Identification (County, State; Year)	Soil characteristics				Meteorological data	
	Type	%OM	pH	CEC	Overall monthly rainfall range (inches) ¹	Overall temperature range (°C) ²
Peas, Dried Shelled						
Cass, ND; 2001	Silty clay	Not applicable			Not reported	23.9-24.4
Grant, WA; 2001	Loamy sand	Not applicable			Not reported (I)	17.8-33.3
Grant, WA; 2001	Sandy loam	Not applicable			Not reported (I)	22.2-34.4
Umatilla, OR; 2001	Silt loam	Not applicable			Not reported (I)	18.3-30.6
Payette, ID; 2001	Loam	Not applicable			Not reported (I)	26.1-27.8
Edmonton, AB; 2001	Clay loam	Not applicable			Not reported	22.2-27.8
Wetaskiwin, AB; 2001	Loam	Not applicable			Not reported	17.2-28.9
Hoodoo, SK; 2001	Silty loam	Not applicable			Not reported	10.0-26.7
RM 463, SK; 2001	Loam	Not applicable			Not reported	13.3-15.0
Peas, Succulent Shelled						
Lehigh, PA; 2001	Silt loam	Not applicable			Not reported (I)	20.0-21.7
Wake, NC; 2001	Sandy loam	Not applicable			Not reported	16.1-23.9
Grady, GA; 2001	Loamy sand	Not applicable			Not reported	11.1-21.7
Freeborn, MN; 2001	Loam	Not applicable			Not reported	15.6-30.6
Wilkin, MN; 2001	Clay loam	Not applicable			Not reported	25.0-28.9
Pepin, WI; 2001	Sandy loam	Not applicable			Not reported (I)	18.9-28.3
Grant, WA; 2001	Sandy loam	Not applicable			Not reported (I)	15.6-28.9
Haut-Richelieu, QC; 2001	Silty loam	Not applicable			Not reported	14.4-26.7
Peas, Succulent, Edible Podded						
Steele, MN; 2001	Loam	Not applicable			Not reported	21.7-31.1
Grant, WA; 2001	Coarse sandy loam	Not applicable			Not reported (I)	16.7-28.9
Benton, OR; 2001	Silty clay loam	Not applicable			Not reported (I)	17.8-18.3

¹ (I) indicates that supplemental irrigation was received.

² Air temperature was only provided for days of application.

The petitioner did not include any information pertaining to weather conditions over the course of the field trials except to describe the conditions which occurred during application of the test substance and whether irrigation was used.



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TABLE B.1.2. Study Use Pattern.							
Location (County, State/ Province; Year)	EP ¹						Tank Mix Adjuvants
		Method; Timing	Vol. (GPA ²)	Rate (lb ai/A)	RTI ³ (days)	Total Rate (lb ai/A)	
Peas, Dried Shelled							
Cass, ND; 2001	20% WG	1: Broadcast foliar; mature plants	10.48	0.21	5	0.42	Activator 90
		2: Broadcast foliar; pod drying	10.27	0.205			
Grant, WA; 2001	20% WG	1: Broadcast foliar; post bloom	20.1	0.2	5	0.40	Induce
		2: Broadcast foliar; 21 days before harvest	20	0.2			
Grant, WA; 2001	20% WG	1: Broadcast foliar; 75% mature	20.1	0.2	5	0.40	Induce
		2: Broadcast foliar; 90% mature, beginning to dry	19.9	0.2			
Umatilla, OR; 2001	20% WG	1: Broadcast foliar; late bloom, pod fill	19.45	0.195	5	0.40	Agridex
		2: Broadcast foliar; pod fill	20.80	0.208			
Payette, ID; 2001	20% WG	1: Broadcast foliar; end of bloom	30	0.201	5	0.40	R-11
		2: Broadcast foliar; end of bloom	29.8	0.199			
Edmonton, AB; 2001	20% WG	1: Broadcast foliar; pods are 75% full size	11.66	0.198	5	0.40	Merge
		2: Broadcast foliar; pods mature	11.73	0.199			
Wetaskiwin, AB; 2001	20% WG	1: Broadcast foliar; mature pods	11.79	0.199	6	0.40	Merge
		2: Broadcast foliar; mature pods	11.57	0.196			
Hoodoo, SK; 2001	20% WG	1: Broadcast foliar; pods at full maturity	11.7	0.199	6	0.40	Merge
		2: Broadcast foliar; 30-40% of pods dried	11.77	0.200			
RM 463, SK; 2001	20% WG	1: Broadcast foliar; 50% pod maturity	11.67	0.199	5	0.40	Merge
		2: Broadcast foliar; 50% of pods final size	11.71	0.199			
Peas, Succulent Shelled							
Lehigh, PA; 2001	20% WG	1: Broadcast foliar; pod set	35.6	0.203	4	0.41	Penetrator
		2: Broadcast foliar; late bloom/mid pod set	36.2	0.207			
Wake, NC; 2001	20% WG	1: Broadcast foliar; pod fill/blooming	30.6	0.204	5	0.40	X-77
		2: Broadcast foliar; blooming/ pod fill	30.06	0.2			
Grady, GA; 2001	20% WG	1: Broadcast foliar; pod fill	10.7	0.2	5	0.40	Latron CS-7
		2: Broadcast foliar; pod fill	10.2	0.2			
Freeborn, MN; 2001	20% WG	1: Broadcast foliar; podding	17.7	0.2	4	0.40	Crop Oil Plus
		2: Broadcast foliar; pod fill	15.88	0.2			
Wilkin, MN; 2001	20% WG	1: Broadcast foliar; BBCH71	20.06	0.2	4	0.40	Agri-dex
		2: Broadcast foliar; 70% of pods typical length	20.09	0.2			
Pepin, WI; 2001	20% WG	1: Broadcast foliar; pod fill beginning, end of flowering	20.3	0.203	5	0.40	Class Preference
		2: Broadcast foliar; approximately 50% pod filling	20.1	0.201			



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TABLE B.1.2. Study Use Pattern.							
Location (County, State/ Province; Year)	EP ¹						Tank Mix Adjuvants
		Method; Timing	Vol. (GPA ²)	Rate (lb ai/A)	RTI ³ (days)	Total Rate (lb ai/A)	
Grant, WA; 2001	20% WG	1: Broadcast foliar; 50% mature pods	20.1	0.2	5	0.40	Induce
		2: Broadcast foliar; 75% mature pods	20.1	0.2			
Haut-Richelieu, QC; 2001	20% WG	1: Broadcast foliar; first flower open	25.7	0.203	6	0.40	Surf 92
		2: Broadcast foliar; pods developing	24.8	0.197			
Peas, Succulent, Edible Podded							
Steele, MN; 2001	20% WG	1: Broadcast foliar; podding	17.05	0.202	4	0.40	Crop Oil Plus
		2: Broadcast foliar; podding	17.8	0.2			
Grant, WA; 2001	20% WG	1: Broadcast foliar; full bloom	20.2	0.2	5	0.40	Induce
		2: Broadcast foliar; full bloom plus 7 days	20.1	0.2			
Benton, OR; 2001	20% WG	1: Broadcast foliar; bloom - pod filling	20.18	0.202	4	0.40	Agri-dex
		2: Broadcast foliar; pod filling	20.20	0.2017			

¹ EP = End-use Product² GPA = Gallons per acre³ RTI = Retreatment Interval

TABLE B.1.3. Trial Numbers and Geographical Locations.									
NAFTA Growing Region	Peas								
	Peas, dried shelled			Peas, edible podded			Peas, Succulent shelled		
	Submitted	Requested		Submitted	Requested		Submitted	Requested	
		Canada	US ¹		Canada	US ²		Canada	US ³
1							1		1 in either zone 1 or 2
2							2		
5	1			1			3		3
5B							1		
11	4			1			1		1
12				1					1
14	4								
Total	9		5	3		3	8		6

¹ According to OPPTS 860.1500, Table 4, the required number of field trials for one dried cultivar of shelled pea (*Pisum* spp.) as a representative commodity of the crop "group" Peas [40 CFR 180.1(h)] is five. According to OPPTS 860.1500, Table 6, trial regions are not specifically recommended for dried shelled peas, but are based on the acreage and production of dried garden pea (97% U.S. crop production in Region 11)

² According to OPPTS 860.1500, Table 4, the required number of field trials for one succulent cultivar of edible-podded pea (*Pisum* spp.) as a representative commodity of the crop "group" Peas [40 CFR 180.1(h)] is three. Regions are not recommended for crops requiring ≤3 trials.

³ According to OPPTS 860.1500, Table 4, the required number of field trials for one succulent cultivar of shelled pea (*Pisum* spp.) as a representative commodity of the crop "group" Peas [40 CFR 180.1(h)] is six; trial locations as recommended in OPPTS 860.1500, Table 5, for succulent garden peas.



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B.2. Sample Handling and Preparation

Samples of dried shelled peas were harvested 20-22 days and samples of succulent shelled peas and succulent edible-podded peas were harvested 6-8 days following treatment. A single untreated and duplicate treated samples were collected from each trial. Samples were bagged and stored frozen (temperature not specified) on the day of harvest, and shipped frozen within 0-43 days of harvest to BASF Agro Research (Research Triangle Park, NC) for analysis.

B.3. Analytical Methodology

Samples of dried shelled peas, succulent shelled peas, and succulent edible-podded peas were analyzed for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. A brief description of the method was included in the submission. BASF Method Number D9908 is similar to the proposed enforcement method (LC/MS/MS BASF Method Number D9808) submitted in conjunction with a previous pyraclostrobin petition (PP#0F06139; DP Barcodes D269668, etc., L. Cheng, 11/28/01). Method D9908 used an alternate extraction option: samples of dried shelled peas, succulent shelled peas, and succulent edible-podded peas were extracted with methanol:water:2 N HCl (7:2.5:0.5; v:v:v) instead of methanol:water (7:3; v:v). Residues are analyzed by LC/MS/MS. For quantitation, the product/daughter ion for the transition m/z 388 \rightarrow 194 for pyraclostrobin (BAS 500 F) and m/z 358 \rightarrow 164 for BAS 500-3 are measured. The limit of quantitation (LOQ) was 0.02 ppm for each analyte (pyraclostrobin and BF 500-3) in/on dried shelled peas, succulent shelled peas, and succulent edible-podded peas.

C. RESULTS AND DISCUSSION

Sample storage conditions and intervals are summarized in Table C.2. The maximum storage intervals of crop samples from harvest to analysis were 138 days (4.5 months) for dried shelled peas, 224 days (7.4 months) for succulent shelled peas, and 163 days (5.4 months) for succulent edible-podded peas. No storage stability data have been submitted with this petition. Available storage stability data indicated that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months. The storage stability data can be translated to support the storage intervals for dry and succulent peas for this study (D269668, etc., L. Cheng, 11/28/2001).

Concurrent method recovery data are presented in Table C.1. Samples of dried shelled peas, succulent shelled peas, and succulent edible-podded peas were analyzed for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. The method LOQ was 0.02 ppm for each analyte. This method is adequate for data collection based on acceptable concurrent method recovery data. Apparent residues of pyraclostrobin and its metabolite BF 500-3 were each below the method LOQ (<0.02 ppm) in/on all untreated samples of dried shelled peas, succulent shelled peas, and succulent edible-podded peas.



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Crop Field Trial - Dry and Succulent Peas

Residue data from the dry and succulent pea field trials are reported in Table C.3. A summary of residue data for dried shelled peas, succulent shelled peas, and succulent edible-podded peas following treatment with the 20% WG formulation is presented in Table C.4. The combined residues of pyraclostrobin (BAS 500 F) and its metabolite BF 500-3 ranged from <0.04 ppm to <0.10 ppm in/on dried shelled peas and succulent shelled peas, and 0.11 ppm to 0.36 ppm in/on edible-podded peas reflecting the use of pyraclostrobin with two broadcast foliar applications of the 20% WG formulation at a seasonal rate of ~0.4 lb ai/A, a 4- to 6-day retreatment interval, and a 20- to 22-day PHI for dried shelled peas and 6- to 8-day PHI for succulent shelled peas and edible-podded peas.

A total of 20 dry and succulent pea field trials were conducted during the 2001 growing season. Nine trials were conducted on dried shelled peas encompassing Regions 5 (ND; 1 trial), 11 (ID, OR, and WA; 4 trials), and 14 (AB and SK, Canada; 4 trials); eight trials were conducted on succulent shelled peas encompassing Regions 1 (PA; 1 trial), 2 (GA and NC; 2 trials), 5 (MN and WI; 3 trials), 11 (WA, 1 trial), and 5B (QC, Canada; 1 trial); and three trials were conducted on succulent edible-podded peas encompassing Regions 5 (MN; 1 trial), 11 (WA; 1 trial), and 12 (OR; 1 trial). The number of field trials are in accordance with OPPTS Guideline 860.1500.

TABLE C.1. Summary of Concurrent Recoveries of Pyraclostrobin and its Metabolite BF 500-3 from Peas (Dried shelled, Succulent shelled, and Succulent edible-podded).				
Matrix	Spike level (ppm)	Sample size (n)	Recoveries (%)	Mean \pm std dev
Pyraclostrobin				
Dried shelled pea	0.02	2	105, 110	100 \pm 9
	1.0	2	90, 96	
Succulent shelled pea	0.02	2	90, 90	91 \pm 1
	1.0	2	91, 92	
Succulent edible-podded pea	0.02	1	100	105
	5.0	1	110	
BF 500-3				
Dried shelled pea	0.02	2	110, 115	104 \pm 10
	1.0	2	93, 99	
Succulent shelled pea	0.02	2	90, 90	89 \pm 3
	1.0	2	84, 90	
Succulent edible-podded pea	0.02	1	95	102
	5.0	1	109	



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TABLE C.2. Summary of Storage Conditions.			
Matrix (RAC or Extract)	Storage Temp. (°C)	Actual Storage Duration ¹	Interval of Demonstrated Storage Stability ²
Dried Shelled Pea	<-10	86-138 days (2.8-4.5 months)	The available storage stability data indicate that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months.
Succulent Shelled Pea	<-10	123-224 days (4.0-7.4 months)	
Succulent Edible-Podded Pea	<-10	154-163 days (5.1-5.4 months)	

¹ All pea samples were analyzed within 0-2 days of extraction.² Refer to storage stability data reviewed in conjunction with a previous pyraclostrobin petition (PP#0F06139; DP Barcode D269668, etc., L. Cheng, 11/28/01).

TABLE C.3. Residue Data from Dry and Succulent Pea Field Trials with Pyraclostrobin.								
Trial ID (County, State/ Province; Year)	Region	Crop; Variety	Commodity or Matrix	Total Rate (lb ai/A)	PHI (days)	Residues (ppm)		
						Pyraclostrobin	BF 500-3	Total
Pea, Dried Shelled								
Cass, ND; 2001	5	Dry pea; Athos	Shelled pea seed	0.42	20	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Grant, WA; 2001	11	Dry pea; Lazer	Shelled pea seed	0.40	21	0.02, 0.04	<0.02, <0.02	<0.04, <0.06
Grant, WA; 2001	11	Dry pea; Estancia	Shelled pea seed	0.40	21	<0.02, 0.02	<0.02, <0.02	<0.04, <0.04
Umatilla, OR; 2001	11	Dry pea; Paso	Shelled pea seed	0.40	22	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Payette, ID; 2001	11	Dry pea; 09690470	Shelled pea seed	0.40	21	0.02, 0.02	<0.02, <0.02	<0.04, <0.04
Edmonton, AB; 2001	14	Dry pea; Admiral	Shelled pea seed	0.40	21	0.03, 0.03	<0.02, <0.02	<0.05, <0.05
Wetaskiwin, AB; 2001	14	Dry pea; Croma	Shelled pea seed	0.40	21	0.05, 0.08	<0.02, <0.02	<0.07, <0.10
Hoodoo, SK; 2001	14	Dry pea; Delta	Shelled pea seed	0.40	21	0.05, 0.06	<0.02, <0.02	<0.07, <0.08
RM 463, SK; 2001	14	Dry pea; Delta	Shelled pea seed	0.40	20	0.04, 0.04	<0.02, <0.02	<0.06, <0.06
Pea, Succulent Shelled								
Lehigh, PA; 2001	1	Succulent pea; Wando	Shelled pea seed	0.41	7	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Wake, NC; 2001	2	Succulent pea; Green Arrow	Shelled pea seed	0.40	7	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Grady, GA; 2001	2	Succulent pea; Progress No. 9	Shelled pea seed	0.40	7	0.07, 0.08	<0.02, <0.02	<0.09, <0.10
Freeborn, MN; 2001	5	Succulent pea; Knight	Shelled pea seed	0.40	7	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04



Pyraclostrobin/BAS 500 F/PC Code 099100/BASF Corporation

DACO 7.4.1/OPPTS 860.1500/OECD IIA 6.3.1, 6.3.2, 6.3.3 and IIIA 8.3.1, 8.3.2, 8.3.3

Crop Field Trial - Dry and Succulent Peas

TABLE C.3. Residue Data from Dry and Succulent Pea Field Trials with Pyraclostrobin.								
Trial ID (County, State/ Province; Year)	Region	Crop; Variety	Commodity or Matrix	Total Rate (lb ai/A)	PHI (days)	Residues (ppm)		
						Pyraclostrobin	BF 500-3	Total
Wilkin, MN; 2001	5	Succulent pea; Top pod	Shelled pea seed	0.40	7	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Pepin, WI; 2001	5	Succulent pea; Lazor	Shelled pea seed	0.40	8	0.03, 0.04	<0.02, <0.02	<0.05, <0.06
Grant, WA; 2001	11	Succulent pea; Case Load	Shelled pea seed	0.40	7	<0.02, <0.02	<0.02, <0.02	<0.04, <0.04
Haut-Richelieu, QC; 2001	5B	Succulent pea; XP 353	Shelled pea seed	0.40	7	0.05, 0.06	<0.02, <0.02	<0.07, <0.08



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 DACO 7.4.1/OPPTS 860.1500/OECD IIA 6.3.1, 6.3.2, 6.3.3 and IIIA 8.3.1, 8.3.2, 8.3.3
 Crop Field Trial - Dry and Succulent Peas

TABLE C.3. Residue Data from Dry and Succulent Pea Field Trials with Pyraclostrobin.								
Trial ID (County, State/ Province; Year)	Region	Crop; Variety	Commodity or Matrix	Total Rate (lb ai/A)	PHI (days)	Residues (ppm)		
						Pyraclostrobin	BF 500-3	Total
Pea, Succulent Edible-Podded								
Steele, MN; 2001	5	Succulent pea; Casiadia	Pod with pea seed	0.40	6	0.23, 0.30	0.05, 0.06	0.28, 0.36
Grant, WA; 2001	11	Succulent pea; Sugar Snap	Pod with pea seed	0.40	7	0.09, 0.10	0.02, 0.02	0.11, 0.12
Benton, OR; 2001	12	Succulent pea; Snap pea SP704-3-8	Pod with pea seed	0.40	7	0.12, 0.19	0.07, 0.09	0.19, 0.28

TABLE C.4. Summary of Residue Data from Dry and Succulent Pea Crop Field Trials with Pyraclostrobin.										
Commodity	Total Applic. Rate (lb ai/A)	PHI (days)	Analyte	Residue Levels (ppm)						
				n	Min.	Max.	HAFT ¹	Median (STMdR ²)	Mean (STMR ³)	Std. Dev.
Dried Shelled Pea	0.40-0.42	20-22	pyraclostrobin	18	<0.02	0.08	0.07	0.03	0.03	0.02
			BF 500-3	18	<0.02	0.02	0.02	<0.02	<0.02	0.0
			Total	18	<0.04	<0.10	0.09	0.05	0.05	0.02
Succulent Shelled Pea	0.40-0.41	7-8	pyraclostrobin	16	<0.02	0.08	0.08	0.02	0.03	0.02
			BF 500-3	16	<0.02	<0.02	<0.02	<0.02	<0.02	0.0
			Total	16	<0.04	<0.10	0.10	0.04	0.05	0.02
Succulent Edible- Podded Pea	0.40	6-7	pyraclostrobin	6	0.09	0.30	0.27	0.16	0.17	0.08
			BF 500-3	6	0.02	0.09	0.08	0.06	0.05	0.03
			Total	6	0.11	0.36	0.35	0.24	0.22	0.10

¹ HAFT = Highest Average Field Trial.

² STMdR = Supervised Trial Median Residue.

³ STMR = Supervised Trial Mean Residue.

D. CONCLUSION

The combined residues of pyraclostrobin (BAS 500 F) and its metabolite BF 500-3 ranged from <0.04 ppm to <0.10 ppm in/on dried shelled peas and succulent shelled peas, and 0.11 ppm to 0.36 ppm in/on edible-podded peas reflecting the use of pyraclostrobin with two broadcast foliar applications of the 20% WG formulation at a seasonal rate of ~0.4 lb ai/A, a 4- to 6-day retreatment interval, and a 20- to 22-day PHI for dried shelled peas and 6- to 8-day PHI for succulent shelled peas and edible-podded peas.



Pyraclostrobin/BAS 500 F/PC Code 099100/BASF Corporation

DACO 7.4.1/OPPTS 860.1500/OECD IIA 6.3.1, 6.3.2, 6.3.3 and IIIA 8.3.1, 8.3.2, 8.3.3

Crop Field Trial - Dry and Succulent Peas

E. REFERENCES

DP Barcodes: D269668, D272771, D272789, D274095, D274192, D274471, D274957, D275843, and D278429

Subject: PP#0F06139. PC Code 099100. Pyraclostrobin on Various Crops: Bananas (import), Barley, Berries, Bulb Vegetables, Citrus Fruits, Cucurbit Vegetables, Dried Shelled Pea & Bean (except Soybean), Fruiting Vegetables, Grapes, Grass, Peanut, Pistachio, Root Vegetables (except Sugar Beet), Rye, Snap Beans, Stone Fruits, Strawberry, Sugar Beet, Tree Nuts, Tuberous and Corn Vegetables, and Wheat. Review of Analytical Methods and Residue Data. EPA File Symbols: 7969-RIT, 7969-RIA. CAS #175013-18-0.

From: L. Cheng

To: C. Giles-Parker/J. Bazuin

Dated: 11/28/01

MRIDs: 45118428-451184-37, 45118501-45118512, 45118514-45118537, 45118601-45118625, 45160501, 45272801, 45274901, 45321101, 45367501, 45399401, and 45429901

F. DOCUMENT TRACKING

RDI:ChemTeam:06/29/04:L.Cheng: 07/22/04

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